

REMARKS

Claims 1-29 and 37-45 are pending in the application with new claim 45 added herein. Applicant expresses appreciation for the indication in section 12 spanning pages 9-10 of the Office Action that the Office does not rely upon needle valve holder 7 as disclosing the lid set forth in the several claims. This clarification greatly assisted Applicant in understanding the Office's position and in distinguishing the cited art as described below.

The drawings are objected to under 37 CFR 1.83(a). Fig. 1 is amended herein adding an optional distribution showerhead 104 as requested. The specification is appropriately amended herein in a manner corresponding to the Fig. 1 amendment. Applicant asserts that the drawing and the specification amendment does not add new matter. Applicant notes that no requirement exists to disclose conventional subject matter known to those of ordinary skill. Applicant asserts and page 8 of the Office Action affirms that distribution showerheads in CVD apparatuses are very well known to those of ordinary skill. A wide variety of distribution showerheads are known and, as set forth in the amended specification, distribution shower head 104 shown in Fig. 1 is of the conventional type. At least for such reasons, Applicant requests entry of the drawing and specification amendment into the application.

Claim 44 stands rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. Applicant notes that the specification and drawings are amended herein to incorporate conventional subject matter addressing the claimed distribution showerhead. Such addition does not constitute new matter. Additionally, Applicant asserts that the specification satisfies the enablement

**In the Drawings**

Please enter the enclosed formal drawing sheet 1/3 in the above-referenced application in place of the originally filed drawing sheet 1/3. A marked-up drawing sheet 1/3 is also included showing the changes.

Acknowledgment of receipt of the formal drawing sheets and their acceptance into the file is requested.

Enclosures: One (1) sheet of replacement drawings (Fig. 1).

One (1) sheet of marked-up drawings (Fig. 1)

requirement even without the drawing and specification amendment. Those of ordinary skill were clearly enabled by the present specification to provide a CVD apparatus with a conventional distribution showerhead positioned to receive deposition gas from an opening through a thickness of a deposition chamber lid given the wide recognition of distribution showerheads in the art and the further disclosure of the original specification. Applicant requests withdrawal of the lack of enablement rejection in the next Office Action.

Claims 1, 2, 4-23, and 25-29 stand rejected under 35 U.S.C. 102(b) as being anticipated by Fukui or under 35 U.S.C. 103(a) as obvious over Fukui. Claims 3 and 37-40 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Fukui. Applicant requests reconsideration.

Claim 1 sets forth CVD apparatus that includes, among other features, a deposition chamber defined by a chamber lid and a chamber body. The chamber lid or body has an innermost surface inside the chamber and an outermost surface outside the chamber. The apparatus includes a valve body having an entirety of a seat within the chamber lid or body thickness between the innermost and outermost surfaces of the chamber lid or body. Pages 3-6 of the Office Action allege that Fukui discloses or suggests every limitation of claim 1. Applicant traverses.

Page 4 of the Office Action (as well as section 12, pages 9-10) relies upon top tapered portion of fence 14 as allegedly disclosing the claimed chamber lid and upon the remainder of fence 14 as disclosing the claimed chamber body. As clarified in the Office Action, the Office does not rely upon needle valve holder 7 as allegedly disclosing or suggesting the claimed chamber lid or chamber body. The Office Action

further alleges that the inside surface of needle valve holder 7 discloses the claimed valve seat.

Applicant notes that the claimed chamber lid or body has an innermost surface and an outermost surface. Such terms expressly distinguish the allegations of page 4 in the Office Action stating that “outside fence 14” discloses the outermost surface and “inside fence 14” discloses the innermost surface. Instead, claim 1 expressly refers to surfaces and the chamber lid or body thickness between such surfaces. That is, it is irrelevant, as alleged on page 5 of the Office Action, whether the inside surface of needle valve holder 7 is between the outside of fence 14 and the inside of fence 14. Claim 1 sets forth a valve body having an entirety of a seat within a thickness between specific surfaces. Since fence 14 is alleged by the Office to disclose the claimed chamber lid or chamber body, it is the specific thickness between the innermost and outermost surfaces of fence 14 wherein must reside the entirety of the inside surface of needle valve holder 7.

The inside surface of needle valve holder 7 that allegedly functions as a seat for hollow needle valve 6 shown in Fig. 1 of Fukui is not disclosed or suggested as being within a thickness of fence 14. Specifically, such inside surface of needle valve holder 7 is not disclosed or suggested as being within the thickness defined as between the innermost and outermost surfaces of fence 14. Mere positioning of the inside surface of needle valve holder 7 between the space outside fence 14 and the space inside fence 14 fails to disclose or suggest the specific structural features expressly set forth in claim 1 by clear terms. At least for such reason, Applicant asserts that Fukui fails to disclose or suggest every limitation of claim 1. Claims 2-8 and 37 depend from claim 1

and are patentable at least for such reason as well as for the additional limitations of such claims not disclosed or suggested.

Claim 9 sets forth a CVD apparatus that includes, among other features, a deposition chamber having a lid and a body, a process chemical opening completely through the lid, and an isolation mechanism proximate the chemical opening. The lid is integral to the isolation mechanism. The Office Action alleges on page 4 that hollow needle valve 6 discloses the claimed isolation mechanism. Since the Office Action (page 4 and section 12, pages 9-10) alleges that fence 14 discloses the claimed lid and body, Fukui fails to disclose or suggest a lid integral to the claimed isolation mechanism. Fig. 1 and the associated text of Fukui clearly establish that all components of ultrasonic wave sprayer 1 are entirely independent and distinct from fence 14. Ultrasonic wave sprayer 1, including needle valve holder 7, perform their individual functions without any reliance whatever upon fence 14. The Office has not identified any basis disclosed or suggested within Fukui to support a finding that the top tapered portion of fence 14 may be considered integral to hollow needle valve 6. At least for such reasons, Applicant asserts that Fukui fails to disclose or suggest every limitation of claim 9. Claims 10-14 and 38 depend from claim 9 and are patentable at least for such reason as well as for the additional limitations of such claims not disclosed or suggested.

Claim 15 sets forth a CVD apparatus that includes, among other features, a deposition chamber having a lid and a body. A valve body includes a portion of the lid as part of the valve body. Page 4 and section 12, pages 9-10 of the Office Action allege that the top tapered portion of fence 14 discloses or suggests the claimed lid.

Page 4 Office Action alleges that ultrasonic wave sprayer 1 discloses the claimed valve body. However, review of Fukui reveals that ultrasonic wave sprayer 1 does not include any portion of top tapered portion of fence 14 as a part of ultrasonic wave sprayer 1. Applicant asserts that no portion of fence 14 is disclosed or suggested in Fukui as in any way functioning as part of a valve body. At least for such reason, claim 15 is patentable over Fukui. Claims 16-26 and 39 depend from claim 15 and are patentable at least for such reason as well as for the additional limitations of such claims not disclosed or suggested.

Claim 27 sets forth a CVD apparatus that includes, among other features, a deposition chamber having a lid and a body, the lid having an opening defined by sidewalls extending between inner and outer surfaces of the lid, and valve body having a housing and a seat. At least a part of the housing includes at least a part of the outer surface of the lid, at least a part of the opening sidewalls of the lid, or both. At least a part of the seat includes at least a part of the inner surface of the lid, at least a part of the opening sidewalls of the lid, or both. Page 4 and section 12, pages 9-10 of the Office Action allege that the top tapered portion of fence 14 discloses or suggests the claimed lid. Pages 4-5 of the Office Action also allege that the inside surface of needle valve holder 7 discloses the claimed valve seat.

Review of Fukui does not reveal any disclosure or suggestion of at least a part of an inner surface of fence 14 being comprised by the inside surface of needle valve holder 7. At least for such reason, Fukui fails to disclose at least a part of the seat including at least a part of the inner surface of the lid, as set forth in claim 27. Also, page 4 of the Office Action alleges that the opening through fence 14 accommodating

insertion of ultrasonic wave sprayer 1 discloses an opening through a lid. Review of Fukui fails to reveal any disclosure or suggestion of at least a part of the sidewalls of the opening through fence 14 being comprised by at least a part of the inside surface of needle valve holder 7. At least for such reason, Fukui fails to disclose or suggest at least a part of the seat including at least a part of the opening sidewalls of the lid, as set forth in claim 27. At least for such reasons, Fukui fails to disclose or suggest every limitation of claim 27. Claims 28, 29 and 40 depend from claim 27 and are patentable at least for such reason as well as for the additional limitations of such claims not disclosed or suggested.

Claim 24 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Fukui in view of Waterfield. Applicant requests reconsideration.

Claim 24 depends from claim 20 and sets forth, among other features, that the valve body further includes a plug and a diaphragm between the plug and an annular platform. Pages 7-8 of the Office Action state that it would be obvious to replace the Fukui needle valve with the Waterfield diaphragm valve. However, Applicant notes that nozzle 3a of Fukui serves the important function of atomizing the solution delivered through wave sprayer 1. Page 11 of the Office Action further states that the function of Fukui's valve is to "control fluid transmission and delivery." However, such a characterization of Fukui ignores the novel and expressly described function of ultrasonic wave sprayer 1. At least column 4, line 19 through column 5, line 13 describe a variety of specific structural features that enable atomizing a liquid solution to form a superconducting film. Removal of those structural features destroys their intended function. The mere fact that the prior art can be modified does not make the

modification obvious “unless the prior art suggested the desirability of the modification.”

In re Gordon, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984). Accordingly, if a proposed modification of the prior art would render the prior art device or process “inoperable for its intended purpose,” then no suggestion or motivation exists to make the proposed modification. Id.; MPEP § 2143.01.

Substitution of needle valve 6 with a diaphragm valve would eliminate nozzle 3a and destroy an intended purpose of ultrasonic waves sprayer 1. Accordingly, the substitution suggested by the Office Action is improper. At least for such reason, claim 24 is patentable over Fukui in view of Waterfield. Applicant requests allowance of claim 24 in the next Office Action.

Claims 41-44 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Fukui in view of Jeong. Applicant requests reconsideration.

Claim 41 sets forth a CVD apparatus that includes, among other features, a deposition chamber having a lid, a valve body including a portion of the lid as part of the valve body, and a valve stem that moves inward to the chamber to allow or to increase flow of process chemical into the chamber and moves outward from the chamber to shut off or to decrease process chemical flow into the chamber. As may be appreciated from the discussion above regarding the deficiencies of Fukui as applied to the various claims, Fukui fails to disclose or suggest ultrasonic wave sprayer 1 including a portion of fence 14 as part of ultrasonic wave sprayer 1. Accordingly, Fukui fails to disclose or suggest a valve body including a portion of the lid as part of the valve body, as set forth in claim 41.



Additionally, review of the Office Action does not reveal any allegation that Fukui discloses or suggests the valve stem that moves inward to the chamber to increase flow and outward from the chamber to decrease flow, as set forth in claim 41. Applicant asserts that Fukui fails to disclose or suggest the valve stem of claim 41. Jeong fails to disclose or suggest and is not alleged to disclose or suggest the subject matter missing from Fukui. A combination of references cannot be considered to disclose or suggest subject matter that is absent from both. At least for such reason, claim 41 is patentable over Fukui in view of Jeong. Claims 42 and 43 depend from claim 41 and are patentable at least for such reason as well as for the additional limitations of such claims not disclosed or suggested.

New claim 45 is identical to claim 44 with the exception that it deletes the recitation of a distribution showerhead. Claims 44 and 45 set forth a CVD apparatus that includes, among other features, a deposition chamber defined in part by a cylindrical body and a circular lid, an opening formed through a thickness of the lid, the opening defining at least a part of a valve seat, and a valve assembly positioned to matched a valve plug or diaphragm with the valve seat. As may be appreciated from the discussion above regarding the deficiencies of Fukui as applied to the various claims, the opening formed through the top tapered portion of fence 14 to accommodate ultrasonic wave sprayer 1 does not in any way define at least a part of a valve seat. The inside surface of needle valve holder 7 alleged to disclose a valve seat is not defined by an opening formed through a thickness of the top tapered portion of fence 14. At least for such reasons, Fukui fails to disclose or suggest every limitation of claims 44 and 45. Jeong does not remedy and is not alleged to remedy the

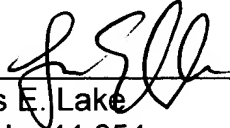
deficiencies of Fukui as applied to claims 44 and 45. At least for such reason, claims 44 and 45 are patentable over Fukui in view of Jeong. Applicant requests allowance of claims 41-45 in the next Office Action.

Applicant herein establishes adequate reasons supporting patentability of claims 1-29 and 37-45 and requests allowance of all pending claims in the next Office Action.

Applicant notes that an IDS previously submitted on November 3, 2003 was accompanied by a two page Form PTO-1449. The returned, initialed copy received by the Applicant only contained the first page of the two page Form PTO-1449. The second page lists one reference for which Applicant has not received an indication of consideration by the Office. Applicant requests a copy of the second page of the initialed Form PTO-1449. If such page is missing from the Office file, then Applicant can provide the missing page upon request. Applicant notes that the returned, initialed copy indicates "Sheet 1 of 2" in the top right corner. The missing page indicates "Sheet 2 of 2" in the top right corner.

Respectfully submitted,

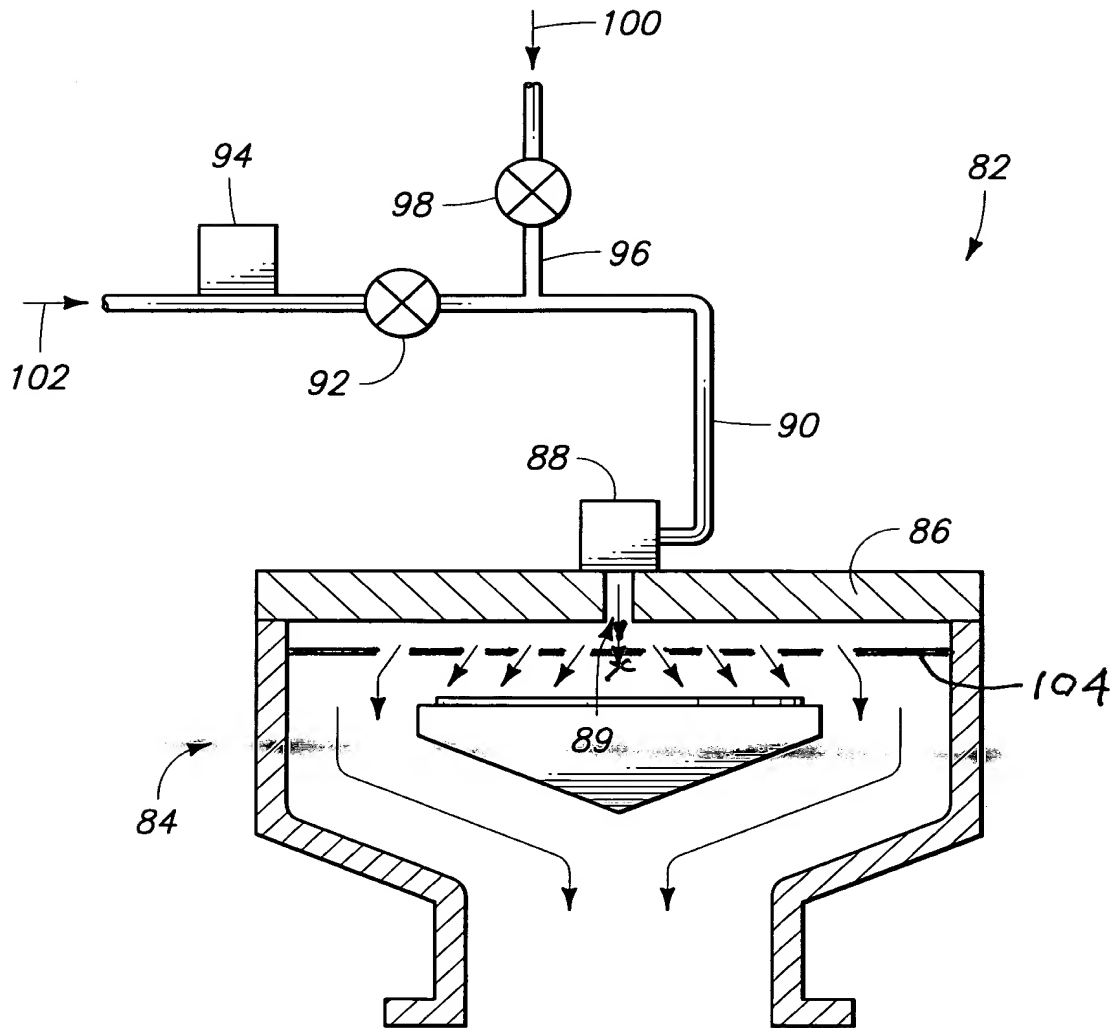
Dated: 21 Apr 2005

By:   
James E. Lake  
Reg. No. 44,854



Annotated Marked-up Drawing

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